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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/824,242	04/14/2004	David H. Hanes	200309081-1	6424
22879 7590 12/19/2007 HEWLETT PACKARD COMPANY P O BOX 272400, 3404 E. HARMONY ROAD INTELLECTUAL PROPERTY ADMINISTRATION FORT COLLINS, CO 80527-2400			EXAMINER AVELLINO, JOSEPH E	
			ART UNIT 2143	PAPER NUMBER
			NOTIFICATION DATE 12/19/2007	DELIVERY MODE ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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# Office Action Summary

Application No.

10/824,242

Applicant(s)

HANES, DAVID H.

Examiner

Joseph E. Avellino

Art Unit

2143

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 14 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-48 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-48 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>2004/04/14</u> .  | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

1. Claims 1-48 are presented for examination; claims 1, 13, 24, 33, 38 and 43 independent.

### ***Information Disclosure Statement***

2. The IDS submitted April 14, 2004 has been considered. See enclosed PTO-1449.

### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 43-48 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The specification discloses that the computer-readable medium includes mediums "later developed" (p. 11). The specification does not provide the means to enable one of ordinary skill in the art to make the invention with a computer-readable medium "later developed". The implementation would not be in the skills of one of ordinary skill in the art and would encompass undue experimentation. Correction is required.

***Claim Rejections - 35 USC § 101***

5. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-12, 24-37, 43-48 rejected under 35 U.S.C. 101 because they fail to establish a statutory category of invention.

6. Referring to claims 1-12 and 24-37, the claim recites a system comprising a drive command module which is defined as a software module (§ 16) and a redirector module which is embodied as a computer program (§ 31-32). As claimed, the invention is merely an interrelationship of software elements, which is software, per se. As such, the claims fail to establish a statutory category of invention. Correction is required.

7. Referring to claims 43-48, the term "computer-readable medium" encompasses infrared medium (§ 32), which fails to establish a statutory category of invention. Correction is required.

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-23, 33-37, and 43-48 are rejected under 35 U.S.C. 103(a) as being unpatentable Heil et al. (USPN 6,173,374) (hereinafter Heil) in view of by Miyoshi et al. (USPN 6,901,451) (hereinafter Miyoshi).

9. Referring to claim 1, Heil discloses an I/O request processing system (i.e. nodes 150), comprising:

a drive command module adapted to receive an I/O request referencing a data block request for processing said I/O request (i.e. I/O redirector software 240) (Figure 2; Figure 3, ref. 400; col. 11, lines 45-52); and

a redirector adapted to automatically convey the I/O request over a communication network 121 to a remote peripheral device 151 for processing of the I/O request (i.e. ship request to remote HBA) (Figure 3, ref. 450; col. 11, line 45 to col. 12, line 7).

Heil does not explicitly disclose the request referencing a local peripheral address to execute the I/O request. In analogous art, Miyoshi discloses another I/O request translation system which receives an I/O request at a module which references a local peripheral address to execute the I/O request (col. 4, lines 30-67). It would have been obvious to one of ordinary skill in the art to combine the teaching of Miyoshi with Heil by substituting the block directory subsystem of Heil with the address/node ID translator 309 of Miyoshi in order for the users of Heil to realize the benefits of Miyoshi,

specifically the ability to transfer local PCI bus transactions from a local node of a PCI bus to a PCI bus on a remote node over a network (Miyoshi: col. 1, lines 55-57).

10. Referring to claim 2, Heils-Miyoshi discloses the redirector is adapted to correlate the local peripheral address space with an address of the remote peripheral device (i.e. translate local address space to address of remote device) (Miyoshi: Figures 3 and 10a).

11. Referring to claim 3, Heils-Miyoshi discloses the redirector is adapted to replace the local peripheral address with an address of the remote peripheral device (i.e. translate the local address space to an address of the remote device) (Miyoshi: Figure 10a, ref. 1003).

12. Referring to claim 4, Heils-Miyoshi discloses the drive command module calls a bus driver (i.e. I/O shipping ISM 270) to invoke the redirector (i.e. I/O ISM 270 formats the request and sends the request out to the network) (Heils: col. 11, lines 35-45).

13. Referring to claim 5, Heils-Miyoshi discloses a network server (i.e. remote network PCI adapter 419) adapted to receive the I/O request from the communications network and execute a command (i.e. various PCI commands such as read/write) to process the I/O request via the remote peripheral device (i.e. device 415A-B) (Miyoshi: Figure 4; col. 9, line 57 to col. 10, line 24).

14. Referring to claim 6, Heils-Miyoshi discloses the I/O request includes a field identifying the local peripheral address (Miyoshi: Figure 5; Figure 6, refs. 615, 620).

15. Referring to claim 7, Heils-Miyoshi discloses a relational database (i.e. node ID table) to correlate local peripheral address with an address of a remote peripheral device (Miyoshi: Figure 7a, ref. 703; col. 10, lines 50-64).

16. Referring to claim 8, Heils-Miyoshi discloses formatting a drive command issued by the drive command module for delivery over the communications network to the remote peripheral device (i.e. I/O ISM formats the request into a format to be transmitted over the network) (Heils: col. 11, lines 35-45).

17. Referring to claim 9, Heils-Miyoshi discloses the redirector inserting an address associated with the remote peripheral device into the drive command (Heils: col. 11, lines 35-55; Miyoshi: col. 10, lines 50-64).

18. Referring to claim 10, Heils-Miyoshi discloses the network server receives the I/O request from the network and extracts an address associated with the remote peripheral device (i.e. translation of a destination address from a base address and address offset of a local I/O request) (Miyoshi: col. 10, line 65 to col. 11, line 14).

19. Referring to claim 11, Heils-Miyoshi discloses the local peripheral address corresponding to a local peripheral address of a host device of a drive command module (i.e. the local address references an address which corresponds to an address space indicating that the request is a remote address request) (Miyoshi: Figure 5).

20. Referring to claim 12, Heils-Miyoshi discloses the redirector is disposed on the host device (i.e. I/O ISM software is on the node) (Heils: col. 11, lines 35-45).

21. Claims 13-23 recite essentially the same limitations of claims 1-12 in method form and are rejected for similar reasons as stated above.

22. Claims 33-37 recite essentially the same limitations of claims 1-12 in means-plus function language and are therefore rejected for similar reasons as stated above.

23. Claims 43-48 recite essentially the same limitations of claims 1-12 in a computer-readable medium and are therefore rejected for similar reasons as stated above.

Claims 24-32, and 38-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Heils-Miyoshi in view of Hewitt (USPN 5,987,541).

24. Referring to claim 24, Heils-Miyoshi disclose the invention substantively as described in claims 1-12. Heils-Miyoshi do not explicitly disclose that the I/O request is



Art Unit: 2143

to record data to an optical medium, however Miyoshi does disclose that the I/O request can be a write request (see rejections above). In analogous art, Hewitt discloses another computer system which discloses an optical drive (i.e. CD-ROM drive 132) on a PCI bus 120 (Figure 1). It would have been obvious to one of ordinary skill in the art to combine the teachings of Heils-Miyoshi to substitute the remote device on the PCI bus 201c-e of Miyoshi with the CD-ROM drive of Hewitt in order to provide the benefits of Hewitt to Heils-Miyoshi, specifically the ability to communicate with an optical drive via a well known bus protocol such as PCI.

25. Claims 25-32 and 38-42 are rejected for similar reasons as stated above.

### ***Conclusion***

26. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph E. Avellino whose telephone number is (571) 272-3905. The examiner can normally be reached on Monday-Friday 7:00-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David A. Wiley can be reached on (571) 272-3923. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2143

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Joseph E. Avellino/  
Joseph E. Avellino, Examiner  
December 8, 2007